

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2001-77-E - ORDER NO. 2001-666

JULY 23, 2001

✓ H10

IN RE:	Application of Duke Power for a Certificate)	ORDER GRANTING
	of Environmental Compatibility and Public)	CERTIFICATE OF
	Convenience and Necessity to Construct and)	ENVIRONMENTAL
	Operate a Generating Plant (Ripp Combustion)	COMPATIBILITY AND
	Turbine Project) for the Production of Electric)	PUBLIC CONVENIENCE
	Power and Energy in Cherokee County, SC)	AND NECESSITY

This matter comes before the Public Service Commission of South Carolina ("Commission") on the Application of Duke Power, a Division of Duke Energy Corporation, for a Certificate of Environmental Compatibility and Public Convenience and Necessity, pursuant to the provisions of S.C. Code Ann. Section 58-33-10 et seq. (1976) and (Supp.2000). By its application, Duke Power seeks authorization to build and operate a 640 MW combustion turbine plant in Cherokee County, South Carolina. Because the record of this proceeding establishes that Duke Power has satisfied the statutory requirements for the relief it seeks, the Commission herein approves the Application and issues the requested Certificate.

Prior to the submission of its Application, Duke Power published notice, as required by S.C. Code Ann. Section 58-33-120(3) of its intent to apply for a Certificate of Environmental Compatibility and Public Convenience and Necessity under the Siting Act. Proof of publication of a Notice of Filing was provided with the Application. In

addition, Duke Power provided a Certificate of Service to demonstrate compliance with S.C. Code Ann. Section 58-33-120(2).¹

Upon the filing of Duke Power's application with the Commission, the Commission's Executive Director required Duke Power to publish a prepared Notice of Filing and Hearing which described the nature of the Application and advised all interested parties of the manner in which they might intervene or otherwise participate in this proceeding. Duke Power thereafter submitted affidavits of publication demonstrating compliance with the Executive Director's instructions. Petitions to Intervene were received from the Consumer Advocate for the State of South Carolina ("Consumer Advocate"), Piedmont Natural Gas Company, Inc. ("Piedmont"), The Electric Cooperatives of South Carolina, Inc. ("ECSC"), and Greenville Generating Company, LLC ("GGC").

On March 27, 2001, the Commission issued Order No. 2001-269, in which the Commission established dates for prefilings of testimony and exhibits of Duke Power, the Intervenor, and the Commission Staff. Thereafter, Duke Power and the Commission Staff filed their intended direct testimony in compliance with the terms of the Commission's order.

On May 24, 2001, in accordance with S.C. Code Ann. Section 58-33-130 of the Siting Act and the Commission's Rules of Practice and Procedure, the Commission conducted an evidentiary hearing in this proceeding. Duke Power was represented by

¹ S.C. Code Ann. Section 58-33-120(2) requires "[e]ach application shall be accompanied by proof of service of a copy of the application on the chief executive officer of each municipality and the head of each State and local government agency, charged with the duty of protecting the environment or of land planning use, in the area in the county in which any portion of the facility is to be located."

Karol P. Mack, Esquire, William F. Austin, Esquire, and Richard L. Whitt, Esquire. The Consumer Advocate was represented by Nancy Vaughn Coombs, Esquire. Robert E. Tyson, Esquire represented the ECSC, and D. Larry Kristinik, Esquire, represented GGC. The Commission Staff was represented by Florence P. Belser, Deputy General Counsel and Jocelyn G. Boyd, Staff Attorney. Intervenor Piedmont did not attend the hearing. Also, the statutory parties named in S.C. Code Ann. Section 58-33-140(1)(b) did not participate in the hearing.²

At the hearing, Duke Power presented the testimony of Steven K. Young and Michael L. Butler. The Commission Staff presented Brent L. Sires and Richard L. Smith as witnesses. None of the Intervenors presented witnesses. In addition to the testimony of these four witnesses and one hearing exhibit, the record of the proceeding includes Duke Power's Application and the various notices, pleadings, and orders issued in this Docket.

SUMMARY OF TESTIMONY

Steven K. Young

Duke Power first presented the testimony of Steven K. Young, Vice President of Rates and Regulatory Affairs of Duke Power, a division of Duke Energy Corporation. Tr., pp. 6 – 51. Young presented testimony related to the need for the proposed Ripp Combustion Turbine Project ("Ripp Project"). Duke Power's Annual Plan, filed on August 31, 2000, in Docket No. 95-844-E, incorporates a 15-year load forecast, existing

² S.C. Code Ann. Section 58-33-140 (1)(b) provides that the South Carolina Department of Health and Environmental Control, the South Carolina Department of Natural Resources, and the South Carolina Department of Parks, Recreation and Tourism shall be parties to a certification proceeding.

generation, near term purchase power contracts, demand-side management options, and peaking and intermediate generation technologies. According to Young, the annual plan is developed with the objective of minimizing revenue requirements with a planning reserve margin of 17 percent. The 2000 Annual Plan shows a need for 600 megawatts of additional peaking and intermediate capacity in the summer of 2002, with additional needs ranging from 470 megawatts to 1175 megawatts for each summer ranging from 2003 to 2015. See, Hearing Exhibit No. 1. The cumulative need for additional generation capacity is over 8,000 megawatts of peaking and intermediate generation capacity to meet the needs of Duke Power's customers through the year 2015. This additional capacity is needed to serve the electric needs of approximately 65,000 customers who are added to the Duke system each year.

Young explained that Duke Power has largely met its customer's energy needs through the construction of generating units. However, in recent years, Duke Power has relied increasingly upon purchases from other utilities and generators to meet a portion of its needs. Over the past six years, Duke Power has issued three Requests for Proposals ("RFPs") to solicit bids from new and existing resources in order to meet Duke Power's capacity needs. The most recent RFP was issued in January 2000 and sought proposals for up to 2900 megawatts of capacity by 2004. In response to the RFP, Duke Power received bids from purchase power resources and from a Duke-owned resource. In the RFP process, all alternatives are evaluated on an equivalent basis, and those alternatives with the best potential to balance a multitude of considerations, including cost, reliability, timing, and risk are identified. The results of the RFP indicated that a combination of

purchase power contracts and the Duke-owned resource is the optimal generation supply for Duke Power's customers.

Young testified that a system impact study was conducted to identify modifications necessary to ensure that the addition of the 640-megawatt Ripp Project would not have an adverse impact on system reliability. Necessary modifications will include modifications to the existing Ripp Switching Station to accommodate the new transmission lines coming from the Ripp Project site and modifying the routing of the existing 230-kV transmission lines into the Ripp Switching Station from the Shelby Tie. Additionally, the Ripp Project will require certain network changes, including rebuilding 10 miles of the existing Ripp to Shelby Transmission Line and relocating a short segment of the King's Mountain 44 kV Transmission Line. The required modifications will be made on existing right-of-way or within the boundaries of the Ripp Switching Station or the Ripp Project site itself. Young testified that the Ripp Project and the associated transmission enhancements will contribute to system reliability. According to Young, the Ripp Project will be an integral part of Duke Power's generation portfolio, ensuring adequate capacity and energy to meet the growing electricity needs of Duke Power's customers, and the transmission enhancements ensure that the energy from the Ripp Project can be delivered reliably to Duke Power's customers.

Witness Young also testified that Duke Power is studying a site in North Carolina for its new facility. Young stated that Duke Power is pursuing certification for the site in North Carolina and has had a hearing in North Carolina similar to the instant proceeding.

Duke Power has yet to make the decision as to which site will be the site on which to build this combustion turbine facility.

Michael L. Butler

Michael L. Butler, an engineer for Duke Power, presented testimony explaining the proposed Ripp Project and the results of environmental studies conducted in relation to the Ripp Project. Tr., pp. 51 – 69. According to Butler, the Ripp Project will consist of eight units, nominally rated at 80 megawatts each. Duke Power will own and operate the units, and Duke Power will contract with Duke Fluor-Daniel, a subsidiary of Duke Energy Corporation, to construct the simple cycle peaking electric facility in Cherokee County. The primary fuel for the project will be natural gas, with #2 fuel oil as a backup. The Ripp Project will have an installed generating capacity of approximately 640 megawatts. Butler stated that the schedule of the Ripp Project reflects installation of the eight units for commercial operation in early summer of 2003.

The site of the Ripp Project consists of approximately 144 acres and is located adjacent to and east of Duke Power's existing Ripp Switching Station. The property site is crossed by a 230 kV electric transmission right-of-way, as well as by a Transco natural gas pipeline. The project will be connected to the Transco gas pipeline that crosses the property. In addition, three fuel oil storage tanks will be constructed at the site to provide fuel oil storage capacity. The project site will also connect to the transmission grid by construction of a double-circuit 230 kV transmission line from the Generator Step-up Transformers located on the Project Power Island to Duke Electric Transmission's Ripp 230 kV Tie Station. The Ripp 230 kV Tie Station is located adjacent to the project site

and the new interconnecting lines will be constructed on a dedicated right-of-way contained within the property boundaries. The connections for natural gas and electric transmission are within the 144 acres of the site property. Therefore, there are no off-site impacts associated with creating new utility corridors.

Duke Power has conducted air quality modeling and foresees no significant impacts on air quality from the Ripp Project. According to Butler, the emission rates from the Ripp Project will comply with Federal and State New Source Performance Standards for gas turbines and Best Available Control Technology for nitrogen oxides and sulfur dioxide emissions. Duke Power expects the NOx emissions from the Ripp Project to be relatively small. Butler testified that the simple cycle combustion technology is the state-of-the art process for meeting peaking electric needs because of its reliability, low emissions, and fast start-up times, using either natural gas or fuel oil. Butler testified that Duke Power has applied for the appropriate air permit from the South Carolina Department of Health and Environmental Control ("DHEC").

The testimony of Butler reveals that Duke Power is not aware of any environmental impacts that would prohibit construction and operation of the Ripp Project. Also historical and archeological studies were conducted with no impacts noted. In addition to the air quality modeling to which Butler testified, the Application also contains site analyses regarding aesthetics (visual and noise), geology and seismology, water quality, terrestrial and aquatic resources, and waste disposal and fuel handling. The analyses did not indicate any serious or adverse impacts from the Ripp Project.

Brent L. Sires

Brent L. Sires, Chief of Gas of the Utilities Department of the Public Service Commission of South Carolina, presented testimony concerning the results of the Commission Staff's analysis of Duke Power's application. Tr., pp. 69 – 78. Specifically, Sires addressed impacts to the natural gas infrastructure of South Carolina including local distribution companies ("LDCs") and end users of the LDCs resulting from the construction of the proposed Ripp Project.

Sires testified that Duke Power would, for the near term, seek to contract for supplies of natural gas transported through the Transco pipeline on an interruptible basis. In the long-term, Duke Power has indicated that it will look at the option of acquiring firm capacity. The proposed Ripp Project will be utilized for meeting Duke Power's generation needs for the peak summer electrical demand on the system. Sires stated that it is the Staff's position that there will be minimal impact, if any, on natural gas supplies or capacity in South Carolina from approval of the Ripp Project.

Richard L. Smith

Richard L. Smith, an Engineer in the Utilities Department of the Public Service Commission of South Carolina, testified concerning the Commission Staff's review of Duke Power's application for the Ripp Project. Tr., pp. 78 – 90. According to Smith, Duke Power complied with the statutory requirements for notice in the filing of the application and also complied with the requirements concerning the contents of the application. Further, Smith testified that the Commission had complied with the statutory procedures of notice and hearing.

Smith also testified that Duke Power's most recent annual resource plan, which was filed on August 31, 2000, used a 15-year load forecast and showed a need for a cumulative total of 8,223 megawatts of peaking or intermediate generation capacity over the 15-year forecast plan. The plan shows a need for 600 megawatts for the summer of 2002, 470 megawatts for the summer of 2003, and 1175 megawatts for the summer of 2004. Based upon Duke Power's 2000 Annual Plan, the Ripp Project will provide additional capacity and energy necessary to help meet the needs of Duke Power's customers for the near future.

FINDINGS OF FACT

Based upon the record before it, the Commission makes the following Findings of Fact:

1. Duke Power is a division of Duke Energy Corporation. Duke Power is engaged in the business of generating, transmitting, distributing, and selling electric power and energy to the general public within North Carolina and South Carolina and is subject to the jurisdiction of this Commission.

2. Duke Power proposes to contract with Duke-Fluor Daniel, a subsidiary of Duke Energy Corporation, to construct a simple cycle peaking electric facility in Cherokee County, South Carolina. The facility, known as the Ripp Combustion Turbine Project ("Ripp Project"), will have an installed generating capacity of approximately 640 megawatts, and the primary fuel for the facility will be natural gas with #2 fuel oil as backup. Duke Power expects the Ripp Project to commence commercial operation by early summer of 2003.

3. The Ripp Project will consist of eight simple cycle combustion turbine units, each nominally rated at 80 megawatts. Combustion turbines operate by forcing compressed air into a combustion chamber where the air is mixed with the fuel and ignited. The heated air expands, turning a turbine that spins a generator to produce electricity.

4. The Ripp Project site consists of approximately 144 acres and is located adjacent to Duke's existing Ripp Switching Station. The property is crossed by a 230 kV electric transmission right-of-way running east from the switching station. The property is also crossed by a Transco natural gas pipeline.

5. The Ripp Project will connect to the transmission grid by construction of a double circuit 230 kV transmission line from the Generator Step-up Transformers located on the Project Power Island to Duke Electric Transmission's Ripp 230 kV Tie Station. The Ripp 230 kV Tie Station is located adjacent to the Ripp Project site. New interconnecting lines will be constructed on a dedicated right-of-way strip contained within the property boundaries.

6. The Ripp Project will connect to the Transco gas pipeline that crosses the property site. In addition, three fuel oil storage tanks will be constructed at the site to provide fuel oil storage capacity.

7. The Ripp Project will be located on a wooded site within approximately 144 acres. Connections required for natural gas and electric transmission are within the 144 acres so there are no off-site impacts associated with creating new utility corridors.

8. The Ripp Project is needed to enable Duke Power to meet its statutory obligation to plan for and to serve its customers' electricity needs. Duke Power's 2000 Annual Plan shows a need for 600 MWs of additional peaking/intermediate capacity in summer 2002, with additional needs ranging from 470 MWs to 1175 MWs for each summer from 2003 to 2015. The additional capacity from the RIPP Project is needed to serve the electric needs of approximately 65,000 customers who are added to the Duke system each year.

9. Duke Power has applied for the appropriate air permit from the South Carolina Department of Health and Environmental Control ("DHEC"). Air quality modeling demonstrates that there are no significant impacts on air quality from the Ripp Project. The Ripp's Projects emission rates will comply with Federal and State New Source Performance Standards ("NSPS") for gas turbines and Best Available Control Technology ("BACT") for nitrogen oxides (NOx) and sulfur dioxide emissions.

10. During operation, the facility's wastewater treatment system will treat any waste from the facility and the effluent's volume and concentration will be regulated by issuance of a facility NPDES permit. There are no thermal issues associated with the discharge. During construction, an erosion control plan will be developed and implemented to ensure retention of on-site sediment.

11. No environmental impacts have been identified that would prohibit the construction and operation of the Ripp Project. Duke Power's analyses have shown that the environmental impacts of the Ripp project are minimal.

12. Duke Power and the Commission have met all statutory requirements for notice and opportunity for hearing as required by the Siting Act.

13. The facility will serve the interest of system economy and reliability.

14. There is reasonable assurance that the RIPP Project will conform to applicable State and local laws and regulations issued thereunder.

15. The public convenience and necessity require the construction of the Ripp Project.

CONCLUSIONS OF LAW AND DISCUSSION

1. Duke Power has demonstrated the basis of the need for the facility. Duke Power has the statutory obligation to plan for and to serve its customers' electricity needs. Duke Power's 2000 Annual Plan shows a need for 600 MWs of additional peaking/intermediate capacity in summer 2002, with additional needs ranging from 470 MWs to 1175 MWs for each summer from 2003 to 2015. Duke Power's cumulative need for additional generation capacity is over 8000 MWs of peaking/intermediate generation capacity to meet its customers' needs through the year 2015. In order to meet customer needs in a reliable manner and to meet its statutory obligation to plan for and serve its customers' needs, Duke Power analyzes and attempts to select the most cost-effective options available. Options considered by Duke Power include purchased power options and Duke Power-owned peaking and intermediate generation technologies. Over the past six years, Duke Power has issued three Requests for Proposals ("RFPs") to solicit bids from new and existing resources to meet its capacity needs. The first two RFPs resulted in Purchased Power Agreements. The last RFP resulted in the selection of the Duke

Power-owned resource. The results from the last RFP and the analysis of the results indicated that a combination of purchased power contracts and the Duke Power-owned resource presents the optimal generation supply for Duke Power's customers. The Ripp Project and a similar project in North Carolina are Duke Power's proposal to meet its generation needs. Duke Power's present plans are to pursue only one location for commercial operation in 2003, and Duke Power will decide on which project to pursue at a date in the near future.

2. The nature of the probable impact of the Ripp Project is minimal. Duke Power analyzed the probable environmental impact of the construction and operation of the Ripp Project on water, sound, and air quality and on natural resources. The results of Duke Power's analyses are that there is little environmental impact. Duke Power also examined visual impact, historical and archeological impact, and terrestrial and aquatic impacts and found little or no impact is anticipated.

3. The impact of the facility upon the environment is justified, considering the state of available technology and the nature and economics of the various alternatives and other pertinent considerations. The Ripp Project will utilize simple cycle combustion technology. Simple cycle combustion technology is the state-of-the art process for meeting peaking electric needs because of its reliability, low emissions, and fast start up times, using either natural gas or fuel oil. The minimal impacts that the Ripp Project may have upon the environment are justified. Duke Power has carefully examined alternatives, and the Ripp Project was selected after a study to minimize costs and environmental impacts.

4. The Ripp Project will serve the interests of system economy and reliability. The Ripp Project will be an integral part of Duke Power's generation portfolio and will ensure adequate capacity and energy to meet the growing electrical needs of Duke Power's customers. Duke Power conducted a system impact study to identify any modifications necessary to ensure the addition of the 640 MW Ripp Project will not have an adverse impact on system reliability. The Ripp Project will necessitate certain modifications to the existing Ripp Switching Station, as well as certain network changes including rebuilding 10 miles of the existing Ripp to Shelby transmission line and relocating a short segment of the Kings Mountain 44 kV Transmission Line. These modifications will be done on existing right-of-way or within the Ripp Project's property boundaries. The Ripp Project and the modifications required by the addition of the Ripp Project will serve the interests of system economy and reliability.

5. There is reasonable assurance that the Ripp Project will conform to applicable State and local laws and regulations issued thereunder. None of the studies or analyses conducted by Duke Power in connection with the Ripp Project reveals any environmental concerns which would indicate the Ripp Project would not meet all environmental, including air and water, regulations. Further, no local government agency charged with the duty of protecting the environment or of land use planning in the area of the Ripp Project provided any negative comment concerning the project.

6. The public convenience and necessity require the construction of the Ripp Project. The Ripp Project is needed to meet the needs of Duke Power's customers. Further, the Ripp Project will serve the interests of system economy and reliability. As

the Ripp Project is needed to meet the energy demands of Duke Power's customers and will serve the interest of system reliability and economy, the Commission concludes that the public convenience and necessity require the construction of the Ripp Project.

IT IS THEREFORE ORDERED THAT:

1. The Application of Duke Power for a Certificate of Environmental Compatibility and Public Convenience and Necessity be and hereby is approved, and accordingly, the Certificate is granted.
2. Duke Power shall notify the Commission's Executive Director of the commercial operation of the plant described in the Application within ten (10) days of such operation.
3. If the Ripp Project construction is not commenced within two years of the date of this Order granting the Certificate of Environmental Compatibility and Public Convenience and Necessity, then this Certificate is subject to renewal or extension.
4. This Order shall remain in full force and effect until further Order of the Commission.

BY ORDER OF THE COMMISSION:

Chairman

ATTEST:

Executive Director
(SEAL)